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# ON A NEW SPECIES OF *SINGHIUS* TAKAHASHI (ALEYRODIDAE: HOMOPTERA) WITH A KEY TO INDIAN SPECIES<sup>1</sup>

# R. SUNDARARAJ AND B. V. DAVID<sup>2</sup> (With a text-figure)

Takahashi (1932) erected Singhius as a subgenus under the genus Dialeurodes for the species Aleyrodes hibisci Kotinsky. In 1978 Mound and Halsey elevated it as a full genus. Alexander and David (1990) shifted the species Aleurotuberculatus russellae David and Subramaniam to Singhius and thereby suggested a new combination. In the present paper a new species is described under this genus from India. A key to the Indian species of Singhius is provided.

KEY TO INDIAN SPECIES OF Singhius TAKAHASHI

- 1. Dorsal setae short and capitate
   2

   Dorsal setae long and with pointed tips
- Pupal case 1.01-1.06 mm long 0.76-0.81 mm wide; margin with 25 crenulations in 0.1 mm; thoracic tracheal pore region slightly indicated; entire dorsum granulated ..... russellae (David & Subramaniam)
- Pupal case 0.79-0.95 mm long and 0.55-0.70 mm wide; margin with 20 crenulations in 0.1 mm; thoracic tracheal pore region distinct; subdorsum only granulated .....morindae sp. nov.

#### Singhius morindae sp. nov. (Fig. 1)

Pupal case: White with a little wax on

<sup>1</sup>Accepted June 1991.

<sup>2</sup>Fredrick Institute of Plant Protection and Toxicology, Padappai 601 301. dorsum; elliptical, broadest at the first abdominal segment region; found singly and scattered on the under surface of leaves; 0.79-0.95 mm long and 0.55-0.70 mm wide.

Margin: Regularly crenulate, 20 crenulations in 0.1 mm; anterior and posterior marginal setae  $15\mu$  and  $25\mu$  long respectively. Thoracic and caudal tracheal pores indicated.

**Dorsal surface:** Dorsal setae capitate, cephalic setae 17.5 $\mu$  long, first abdominal setae (broken), eighth abdominal setae 5 $\mu$  long, and caudal setae on either side of caudal pore 37.5 $\mu$ long. Dorsum with sparsely distributed minute pores; subdorsum with semicircular markings. Submargin with suture-like lines running mesad from margin distinct. Submarginal or subdorsal setae absent.

Vasiform orifice: Subrectangular, wider than long ( $30-37.5\mu \times 45-55\mu$ ); operculum wider than long ( $15-20 \times 30-35\mu$ ) towards caudal end constricted at half its length and somewhat rounded, filling the orifice; lingula concealed. Caudal tracheal furrow funnelshaped with a constriction at the middle half and at the pore end and with minute irregular markings. Thoracic tracheal furrows not indicated.

Ventral surface: Ventral abdominal setae 17.5µ long and 32.5µ apart; caudal and thoracic



Fig. 1. Singhius morindae sp. nov. A. Pupal case, B. Margin, C. Vasiform orifice.

tracheal folds indicated but lack stipples or dots.

Material examined: Holotype. Morinda tinctoria, Vellimalai (Tamil Nadu), 3 Aug. 1987. Coll. R. Sundararaj. The holotype is with B.V. David.

**Paratype:** One mounted pupal case on slide, data same as for holotype, deposited in the collection of the Systematic Entomology Laboratory, USDA, Beltsville, Maryland, U.S.A.

This new species resembles S. russellae

(David and Subramaniam) by the presence of capitate dorsal setae but differs in shape and by indication of thoracic tracheal pore region. It also resembles *S. hibisci* (Kotinsky) in shape and size but differs by capitate nature of dorsal setae.

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# A NEW SPECIES OF LIPARIS RICHARD (ORCHIDACEAE) FROM SIKKIM<sup>1</sup>

## S. Z. LUCKSOM<sup>2</sup>

In my recent orchid survey in Bhusuk valley of Sikkim, I could collect many interesting orchids. A new species of *Liparis* Hook. f, collected during the exploration, is described.

### Liparis lydiaii sp. nov.

Liparis platyrachis Hook. f., affinis, sed differt pseudobulbo 1-2 cm longus, coepitosus, ovaideo-cylindricus. Folia 4, graciliter membranacea, alterna, ovato-oblonga, 1-2.7 cm x 0.4 - 0.9 cm, ad marginem integra, ad superficies undulata. Inflorescentia 8-11.5 cm, terminalibus, subpendula, pedunculus 0.8-2.5 cm longus, gracilis, teretus, erectus, cum 2-3 bracteolis, cordatis, basi amplexicaulibus, 5-6 x 2-3 mm, racemus 8-9 cm longus, teretus, cum 4-14 floribus. Sepalum dorsale sepalis lateralibus majus, 3.6-4 x 2.6-3 mm, cordato-retroflexum. Labellum 2-2.5 x 0.8-1 mm, cordatum, ad medium parvum deflexum.

## Liparis lydiaii sp. nov.

Epiphytic. Pseudobulb 1-2 cm long, tufted, ovoid-cylindric, sheathed, 3.5-6 mm diam., broader at the base and slightly tapering towards the apex. Leaves 4, 1-2.7 x 0.4-0.9 cm, thinly membranous, alternate, ovato-oblong, undulating leaf surface, margin entire. Inflorescence 8-11.5 cm, sub-pendulous, Peduncle 0.8-2.5 cm long, slender, terete, erect with 2-3 cordate amplexicaul base bracteoles 5-6 x 2-3 mm; the raceme 8-9 cm long, terete, with 4-14 flowers.

<sup>1</sup>Accepted October 1991.

Flowers light greenish-pink, 7-8 mm long. Pedicel 4-4.5 mm long; the floral bracts small, cordate with amplexicaul base. Sepals 3, subequal, brownish-pink; the dorsal sepal 3.6-4 x 2-3 mm, broader than lateral sepals, cordate, retroflexed; the lateral sepals 5.2 - 5.7 x 0.9 - 1.1 spreading, oblong, obtuse, margin mm, recurved. Petals 2, 2.9-3.1 x 0.09-0.1 mm, oblong, obtuse, translucent, whitish-pink, margin recurved. Labellum 2-2.5 x 0.8-1 mm, cordate, slightly deflexed at the middle, hypochile with 4 calli. Column about 3 mm long, winged, 2-lobed. Anther ovate, dorsally dome-shaped, about 0.5 mm long. Pollinia 2, about 0.4 mm long, translucent, orange yellow, clavate-oblong.

Type: INDIA: Sikkim, Bhusuk valley, 10 October 1990. Lucksom (Lucksom 198a Holotype: Gangtok, Forest Department Herb). Isotypes (198b, Gangtok, Forest Department Herb).

**Etymology:** It is named in memory of my late mother who was a great source of inspiration for the study of this important group of plants.

Flowers and fruits: October - November.

Altitude: 900 m -1200 m.

**Ecology:** This species grows on the branches of arched shrubs in moist and shady places.

The fresh specimens had light greenishpink flowers on sub-pendulous peduncle. Leaves coriaceous, or sub-coriaceous, jointed at the pseudobulb or sheath. These characters are of section Coriifoliae Rich. of the genus *Liparis*.

The new species is closely allied to Liparis

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